Appln No. 09/697,775
Amdt date September 14, 2004
Reply to Office action of July 21, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-51. (Canceled)

52. (Currently amended) In a video hyperlinked annotation data system, a computer-readable medium storing data for access by an application program executed by a processor in the hyperlinked annotation data system, the computer-readable medium comprising:

a first annotation data structure element including an object reference for an object in a video frame and a corresponding first identifier; [[and]] (plural objects).

a second annotation data structure element identified by said first identifier, said second annotation data structure element including a first set of annotation data references[[.]];

a sixth data structure element storing image overlay data, the object being visually identified based on the stored image overlay data in response to a user command; and pixel map.

at least one timing data indicator stored in association with at least one of the plurality of data structure elements,

wherein the application program retrieves the stored timing data indicator and synchronizes presentation of at least one of

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the plurality of data structure elements with a video frame
based on the retrieved timing data indicator.

    53.   (Canceled)

    54.   (Previously Presented)   The system of claim 53 wherein
said timing data indicator indicates an expiration time.

    55.   (Previously Presented)   The system of claim 53 wherein
said timing data indicator indicates an activation time.

    56.   (Previously Presented)   The system of claim 52 wherein
said first annotation data structure element is associated with
a set of video frames of a video program and wherein said second
annotation data structure element is associated with said video
program.

    57.   (Previously Presented)   The system of claim 52 wherein
said first data structure element and said second data structure
element are transmitted separately.

    58.   (Previously Presented)   The system of claim 52 wherein
said first set of annotation data references includes an
annotation data field and a second identifier referencing a
third annotation data structure element.

    59.   (Previously Presented)   The system according to claim
58 wherein said annotation data field is a title data field and

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said third annotation data structure element is a string including a title of said object.

60. (Previously Presented) The system according to claim 58 wherein said third annotation data structure element includes at least one display identifier for referencing a fourth data structure element to be displayed to a viewer and at least one action identifier referencing a fifth data structure element providing instructions so said system for action to be taken by said system.

61. (Previously Presented) The system according to claim 58 wherein said annotation data field is a variable parameter field.

62. (Previously Presented) The system according to claim 58 wherein said second identifier is a variable value.

63. (Previously Presented) The system according to claim 58 wherein said first and second identifiers are never duplicated by the system.

64. (Currently amended) The system according to claim 52 wherein the sixth [further comprising a fifth] data structure element includes [including] location and shape information about said object.

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65.   (Currently amended) The system according to claim 64, wherein said <u>sixth</u> [fifth] data structure element is associated with a video frame.

66.   (Currently amended)   A method for generating one or more data structures via a first processor in a hyperlinked video signal annotation data system, the one or more data structures being stored in a computer-readable medium for access by an application program executed by a second processor in the hyperlinked video signal annotation data system, the method comprising:

creating a first annotation data structure element including an object reference for an object in a video frame and a corresponding first identifier; [[and]]

creating a second annotation data structure element identified by said first identifier, said second annotation data structure element including a first set of annotation data references[[.]]<u>;</u>

<u>Creating a sixth data structure element storing image overlay data, the object being visually identified based on the stored image overlay data in response to a user command; and</u>

<u>Creating at least one timing data indicator in association with at least one of the plurality of data structure elements,</u>

<u>Wherein the application program retrieves the timing data indicator and synchronizes presentation of at least one of the plurality of data structure elements with a video frame based on the retrieved timing data indicator.</u>

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67.   (Canceled)

68.   (Previously Presented)   The   method   of   claim   67
wherein said timing data indicator indicates an expiration time.

69.   (Previously Presented)   The   method   of   claim   67
wherein said timing data indicator indicates an activation time.

70.   (Previously Presented)   The   method   of   claim   66
wherein   said   first   annotation   data   structure   element   is
associated   with   a   set   of   video   frames   of   a   video   program   and
wherein   said   second   annotation   data   structure   element   is
associated with said video program.

71.   (Previously Presented)   The   method   of   claim   66
wherein said first data structure element and said second data
structure element are transmitted separately.

72.   (Previously Presented)   The   method   of   claim   66
wherein said first set of annotation data references includes an
annotation   data   field   and   a   second   identifier   referencing   a
third annotation data structure element.

73.   (Previously Presented)   The method according to claim
72 wherein said annotation data field is a title data field and
said   third   annotation   data   structure   element   is   a   string
including a title of said object.

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74. (Previously Presented) The method according to claim 72 wherein said third annotation data structure element includes at least one display identifier for referencing a fourth data structure element to be displayed to a viewer and at least one action identifier referencing a fifth data structure element providing instructions to said system for actions to be taken by said system.

75. (Previously Presented) The system according to claim 72 wherein said annotation data field is a variable parameter field.

76. (Previously Presented) The method according to claim 72 wherein said second identifier is a variable value.

77. (Previously Presented) The system according to claim 72 wherein said first and second identifiers are never duplicated by the system.

78. (Currently amended) The system according to claim 66 [further comprising] wherein the sixth [creating a fifth] data structure element includes [including] location and shape information about said object.

79. (Currently amended) The system according to claim 78, wherein said sixth [fifth] data structure element is associated with a video frame.

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80.   (Canceled)

81.   (Currently amended) The computer-readable medium of claim 80, wherein [the image overlay data is associated with first timing data,] presentation of the image overlay is [being] synchronized with the video frame based on the [first] timing data indicator.

82.   (Currently amended) The computer-readable medium of claim 81, wherein a computer program code compares the [first] timing data indicator with second timing data associated with a current video frame and sleeps for a period of time equivalent to a difference in times indicated by the first and second timing data, the computer program code being awakened for visually identifying the object based on the image overlay data in response to an expiration of the time period.

83.   (Previously Presented) The computer-readable medium of claim 81, wherein at least one of the data structures is associated with second timing data, the second timing data being indicative of a last instance the data structure is used in a video program associated with the video frame, wherein the data structure is removed from the computer-readable medium in response to a determination based on the second timing data that the data structure is no longer used in the video program.

84-94.   (Canceled

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95. (Currently amended) A method for generating one or more data structures via a first processor in a video hyperlinked video signal annotation data system, the one or more data structures being stored in a computer-readable medium for access by an application program executed by a second processor in the hyperlinked video signal annotation data system, the method comprising:

identifying a region of a video frame associated with an object included in the video frame;

selecting a value for the identified region;

creating a first data structure mapping the selected value to a plurality of pixels in the identified region, the first data structure further storing a first reference pointer;

creating a second data structure identified by the first reference pointer, the second data structure associating the value to a first identifier; and

creating a third data structure identified by the first identifier, the third data structure including a first set of annotation data references for the object[[.]]_

wherein the application program presents at le_st_ one of the data structures in a manner that is synchronized with a video frame.

96. (Previously Presented) The method of claim 95, wherein the value is associated with image overlay data for visually identifying the object in response to a user command.

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97. (Previously Presented) The method of claim 96, wherein the first data structure is associated with first timing data, the method further comprising processing the first timing data and synchronizing presentation of the image overlay with the video frame based on the processed first timing data.

98. (Previously Presented) The method of claim 97 further comprising:

comparing the first timing data with second timing data associated with a current video frame;

causing a computer program code to sleep for a period of time equivalent to a difference in times indicated by the first and second timing data; and

awakening the computer program code for visually identifying the object based on the image overlay data in response to an expiration of the time period.

99. (Previously Presented) The method of claim 98, wherein at least one of the data structures is associated with second timing data, the second timing data being indicative of a last instance the data structure is used in a video program associated with the video frame, the method further comprising:

removing the data structure from the computer-readable medium in response to a determination based on the second timing data that the data structure is no longer used in the video program.

100-110. (Canceled

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